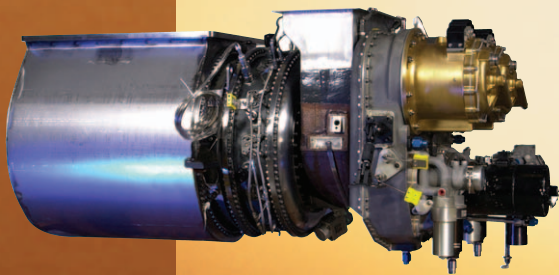


Next Generation of  
Ground Vehicle Turbine  
Propulsion Systems

## Honeywell LV50

AEROSPACE



## LV50 Specifications:

<b>Weight:</b>	<b>&lt; 272kg / 600lbs (sponson)</b>
<b>Dimensions:</b>	<b>147cm x 46cm x 66cm / 58" x 18" x 26" (sponson)</b>
<b>Volume:</b>	<b>0.32m<sup>3</sup> / 11.4ft<sup>3</sup> (front dunk volume)</b>
<b>Max Power:</b>	<b>PTO shaft net power output exceeds 410kW at 150m, 50°C conditions</b>
<b>Uninstalled Power:</b>	<b>500kW (670shp) at 150m, 25°C and 460kW (617shp) at 2500m and 15°C</b>
<b>Torque:</b>	<b>Torque rise exceeds 40% at 60% of rated PTO speed</b>
<b>Starting:</b>	<b>5-30 seconds with immediate full power available (-54°C to +60°C)</b>
<b>Fuel types:</b>	<b>MIL-T-5624, JP4, JP5, JP8, Jet A, Jet A1, Jet B, Diesel, Avgas, gasoline</b>
<b>Oil types:</b>	<b>MIL-L-7808 MIL-L-23699</b>

## LV50

The Honeywell LV50 is the next generation of ground vehicle turbine propulsion systems. It combines commercial and military technologies to offer Future Combat System (FCS) the lowest risk propulsion solution available. Honeywell's LV50 brings a proven turbine core, low weight, high power density to FCS, enabling introduction of 16-20 ton Manned Ground Vehicles (MGV) ahead of schedule.

As with all Honeywell engines, the LV50 is designed for ease of maintenance and high reliability. The LV50 can be removed and replaced in less than an hour. Its simplicity allows the use of only a few hand-tools for maintenance and requires minimal external equipment for cooling, further reducing system weight and volume. The LV50 can be configured with or without a gearbox. The gearbox can be configured for 1 or 2 small lightweight generators driven directly by the power turbine or through gear reduction.

Honeywell's LV50 High Power Density Engine (HPDE) Demonstrator with recuperator and generators successfully completed on schedule, demonstration of full power producing over 400 kilowatts of electric power at 600 volts direct current on April 30, 2004. The LV50 HPDE is sponsored by the Army Tank-automotive and Armaments Command (TACOM) in Warren Michigan and is aimed at supporting the hybrid electric propulsion system for the FCS MGV. The LV50's starting point of having already achieved full power with margin substantially reduces MGV program risk.



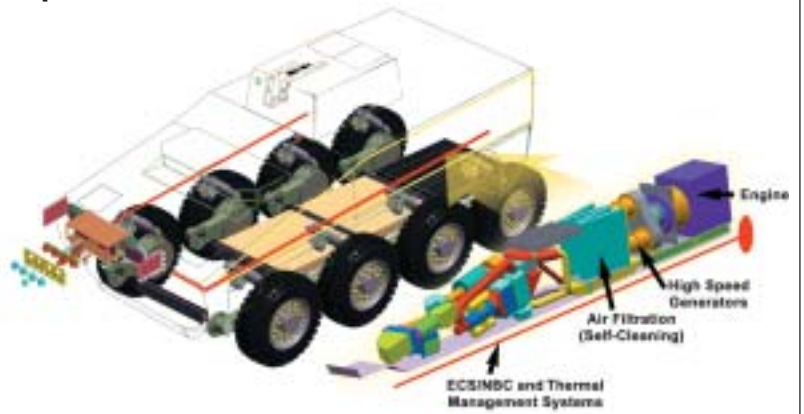
The LV50 demonstrator includes a proven turbine engine, an efficient recuperator for fuel economy, and an adaptable gearbox driving two compact generators. The LV50 propulsion system's lightweight design enables the MGV to meet the C-130 deployment requirement while also providing power growth capability to meet the needs of the battlefield of the future.

The LV50 can deliver the key enablers for the FCS MGV success.

- Lowest weight & volume approach (e.g. over 1 ton of system weight savings)
- Flexible installation options available (e.g. front, sponson, rear)
- Derived from existing commercial products (e.g. mature subsystems reduces risk to MGV)
- Power margin for evolving requirements (e.g. horsepower to spare)
- Self contained – minimal external cooling (e.g. no radiators or intercoolers)
- Reliable and durable – battle proven turbine experience in M1 (e.g. 5000 hour MTBDR)
- Survivable – "See First – Act First" (e.g. No visible smoke and 10-20dBa quieter)

### Sponson Installation – Saves 24 cubic feet

The LV50 can be installed in a variety of places within the vehicle to optimize the vehicle design for weight and volume. The LV50 is designed for installation in either the vehicle's front or sponson (track/wheel well) at the discretion of the vehicle integrator.



# Honeywell